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The Impact and Mechanisms of Change of Natural Lifemanship: A Research Review

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The Impact and Mechanisms of Change of Natural Lifemanship: A Research Review

The purpose of this paper is to summarize the available research on Natural Lifemanship (NL) as a trauma-informed and principle-based approach to equine-assisted services. Published research explicitly examining Natural Lifemanship as a therapeutic or learning intervention are included. To identify empirical studies for inclusion, a search was made on Google Scholar using the terms, “Natural Lifemanship”, “TF-EAP” (Trauma-Focused Equine-Assisted Psychotherapy) and “TI-EAL” (Trauma-Informed Equine-Assisted Learning).

Ten empirical studies met the criteria of explicitly including participants and/or practitioners of Natural Lifemanship’s TF-EAP or TI-EAL. Of these studies, five were doctoral dissertations, and five were master’s theses. Four examined the impact of NL’s TF-EAP on participants and six explored the mechanisms of change in NL’s TF-EAP or TI-EAL. Findings are summarized below.

The impact of Natural Lifemanship’s TF-EAP

Four master’s theses explored outcomes of TF-EAP by comparing pre- and post-treatment measures. All four studies were conducted with children and adolescents experiencing emotional and behavioral difficulties and who had histories of trauma, such as abuse and neglect, among other adverse childhood experiences (ACEs). Sample sizes ranged from 1 to 40 participants. Measures included the Behavior Assessment System for Children (BASC-3), the Child and Adolescent Functional Assessment Scale (CAFAS), and the Youth Outcome Questionnaire (Y-OQ and Y-OQ-SR). All pre-post comparisons indicated improvement following TF-EAP services, specifically decreases in anxiety, depression, and somatization (Alexander, 2017), improvements in behavior at school, home, in relationships, and improvement

in moods and emotions (Kruger, 2012), reduction in psychological, emotional and behavioral problems (Dziegielewski, 2014) and improvements in psychosocial functioning (Shultz, 2005).

Impact studies comparing pre- and post-intervention scores

Author (year)	Population (sample)	Measures	Findings
Alexander (2017)	Children (n=1)	BASC-3	After 8 weeks of TF-EAP, anxiety, depression and somatization decreased, while adaptability increased.
Kruger (2012)	Children & adolescents who had experienced severe abuse or neglect (n=15)	CAFAS	After 6 months of TF-EAP, significant improvements in 5 out of 7 domains of youth functioning were observed in 93% of participants. Improved domains included home behavior, school behavior, community behavior, behavior towards others, and moods/emotions.
Dziegielewski (2014)	Adolescents with trauma history (n=40)	CAFAS	Participants who received TF-EAP demonstrated significant improvement in CAFAS total scores, suggesting that TF-EAP is effective in reducing the psychological, emotional, and behavioral problems in youth with a trauma history. There was a weakly significant correlation between months in the program and the change in CAFAS scores, suggesting that the longer youth participate in TF-EAP, the greater their improvements in functioning.
Shultz (2005)	Adolescents at-risk (n=29)	Y-OQ Y-OQ-SR	Youth who participated in an EAP* program as well as youth who did not (control group) were assessed at both pre- and post-treatment. Clinically significant improvements in overall psychosocial functioning were observed by both parents and youth for those participants who participated in the EAP program. The improvements were significantly greater than those observed with the control group for the subscales, Intrapersonal Distress, Somatic, and Interpersonal Relations.

**This 2005 study was completed by NL co-founder, Bettina Shultz Jobe, before the official birth of Natural Lifemanship's TF-EAP; thus, the intervention was referred to as EAP.*

Note on Measures:

BASC = Behavioral Assessment System for Children, which is used to measure changes in behaviors and feelings of children over time. Includes parent and self-report.

CAFAS = Child and Adolescent Functional Assessment Scale, which is used to assess 8 domains of youth functioning, including school, home, and community behavior, behavior towards others, moods and emotions, self-harmful behavior, substance use, and thinking.

Y-OQ = Youth Outcome Questionnaire, which includes a parent report (Y-OQ) and a self-report (Y-OQ-SR). Subscales include intrapersonal distress, somatic, interpersonal relations, critical items, social problems, and behavioral dysfunction.

The mechanisms of change of Natural Lifemanship's TF-EAP and TI-EAL

Six studies, including five doctoral dissertations and one master's thesis, used qualitative methods to explore the mechanisms of change involved in Natural Lifemanship equine-assisted interventions. Three studies examined lived experiences of participants, including at-risk adolescents in TF-EAP programs (Sheena, 2020), teens who participated in TI-EAL programs (Mygatt, 2023), and children with ADHD participating in TF-EAP (Young, 2020). The other three studies explored the perceptions of TF-EAP practitioners (Beck, 2014), the therapeutic discourse facilitated during TF-EAP sessions (Kruger, 2018), and the psychodynamic experiences present in the relationships between women and their horses (Flora, 2018). The latter study was not specifically about experiences in the context of NL as a treatment modality but NL was methodologically utilized as part of the interpretive frame.

Qualitative research, while subjective in nature, contributes in rich ways to theory building, enriching our understanding of how and why Natural Lifemanship works or what the horse-human relationship offers to enhance the psychotherapeutic or learning intervention and to promote growth and healing. Qualitative research is incredibly valuable for building theories of change, which can then be tested through quantitative or mixed methods.

Qualitative studies related to Natural Lifemanship

Author (year)	Focus of Research	Method
Sheena (2020)	Why EFP is effective for helping to heal trauma in at-risk adolescents	<i>Hermeneutic and heuristic research</i> – The author immerses herself in research literature while reflecting on her own experience as a student of Natural Lifemanship receiving training at an EA practice. Findings emerge through the process of synthesizing research literature and professional preparation with personal experience.

Findings:

- The horse functions as a co-therapist, providing affirmative mirroring that models the ideal therapist-client relationship.
- NL psychoeducation destigmatizes youth with maladaptive defenses and creates a safe space and affirmative mirroring contributing to healing internalized shame.
- NL facilitates whole brain integration as clients move from primitive responses to whole-brain capacities.
- New patterns of relationship behaviors are cultivated, resulting in new neural pathways; therapeutic healing occurs through affirmative mirroring, present-centered self-awareness and self-regulation.
- Confidence increases and avoidance behaviors decrease as clients experience success.
- Clients become more aware of their bodies and emotional states in the present moment.
- Trust is promoted, developing the therapeutic relationship, facilitating acceptance and allowing for the exploration of painful feelings, which surface in the present, so that healing can begin.
- The relationship with the horse allows clients to develop present-centered, embodied awareness, the skill of co-regulation, congruency between their internal states and external behavior, and the discovery of better ways to connect with themselves and others.

Author (year)	Focus of Research	Method
Mygatt (2023)	To explore the lived experience of adolescents who participated in EAL* programs through the lens of Unitary Caring Theory	<i>Unitary Caring Hermeneutic Phenomenological Research Method</i> – the researcher conducted and recorded semi-structured interviews obtaining naïve descriptions from adolescents who participated in EAL programs. These were transcribed verbatim and became the primary data source. Through multiple readings, the researcher identifies meaning units and themes (essences) to capture the essence of the experience, ultimately linking the essences to the concepts of <i>unitary caring theory</i> to develop a theoretical understanding of the experience and contribute to the development of caring in nursing science.

Findings:

Six essences emerged from the transcripts of 11 adolescent participants, who had participated in between 6 and 96 EAL sessions. Each essence was supported by quotes from the text and backed with support from EAL research literature. They are paraphrased here:

1. *Troubled by turbulent connections* – the adolescents experienced relational dissonance, feeling isolated and alone. This inherently stressful developmental period was impacted by the COVID-19 pandemic causing heightened distress. The teens struggled in their relationships and this impacted their sense of social connectedness and their sense of self.
2. *Embracing uncertainty and vulnerability* – The teens embraced uncertainty and vulnerability, manifesting intentions to engage in the healing process. They attributed their abilities to overcome their fears to the environment of EAL, their therapist, and their horse. They experienced the horse as non-judgmental, and the environment as welcoming and calming, and the therapist as caring. These attributes of the EAL experience afforded a sense of safety and comfort, supporting the youth in facing their fears and moving through them. As a result, adolescents' beliefs in themselves increased and their self-confidence grew. They were able to see things from different perspectives and experience success, developing faith in the process.
3. *Awakening to the shared human-horse condition* – The adolescents expressed feelings of connectedness with the horses through empathy, self-reflection, and discovering a shared experience. Hearing the horse's stories of pain and struggle provided context for the adolescents to understand the horse's behavior and invited them to reflect on their own stories of pain and struggle and discover new meaning. The researcher "believes this essence captures the uniqueness of EAL as a therapeutic modality. The participant's ability to feel deep empathy for another and self-reflect on their own experiences afforded a lens of compassion for others and themselves.... this was pivotal to unlocking their subconscious beliefs of disconnection to ponder the possibility of integral relatedness, acknowledging what is with wonder."
4. *Attuning as one* – The adolescents learned to attend to the subtleties and nuances of the interaction with their horse. They learned to recognize cues from the horse's body language. While processing these, they became aware of their body language and how it impacted the interaction in the moment. By providing immediate, honest feedback through their body language, horses helped adolescents build relational skills, which they were then able to translate to interactions with others.
5. *Engaging harmonically* – As they learned how to attune with the horses and themselves, the adolescents experienced a sense of ease and comfort in the connection with their horse and a new sense of self evolved. They reported that their sense of gratitude, affection, and mutual comfort with the horse increased as sessions progressed, and that their connections with themselves and with others improved as a result. They also reported that the equine experience helped them embrace the therapeutic process, which many reported struggling with prior to attending EAL.
6. *Cultivating peace and joy* – As they progressed through the program, teens experienced their well-becoming and were able to reshape their future by cultivating their hopes and dreams. The EAL process strengthened their sense of self and gave them courage to embrace who they are and pursue who they want to be.

Note: *According to the researcher, the participants were sampled from EAL programs conducted by mental health professionals trained or certified in NL.

Author (year)	Focus of Research	Method
Young (2020)	To understand practitioner perspectives on the influence of EAP on the social skills of children with ADHD	<i>Retrospective, multiple case study framework</i> - Interviews were conducted with 10 practitioners (including 5 NL practitioners and 5 practitioners of other EAP modalities) involved in the EAP treatment of children with ADHD. Of interest were practitioner perceptions of the experiences of children and their families during EAP, and the impact of EAP on children's social skills. Data were analyzed for common themes.

Findings:

- All providers reported that children and families shared positive experiences of EAP and that EAP allowed adolescents to learn skills improving their quality of life and the quality of their interactions with others.
- All providers, regardless of EAP model, similarly reported that participants experienced positive outcomes related to social skills in general, engagement, empathy, and communication skills.
- There were differences in practitioner beliefs regarding what accounted for these outcomes (for example, whether support or structure in sessions was more important to initial success), but all agreed that the relationship with the horse was instrumental, generating a felt sense of acceptance and providing a safe foundation for learning new skills.
- The bond with the horse, characterized by acceptance and safety, serves as a foundation for practicing healthy relationship skills that transfer to other relationships in the child's life.
- The impact of EAP according to practitioners was increased empathy, engagement, lack of aggression, improved verbal communication including the ability to ask for what one needs or wants appropriately, and also nonverbal communication including the ability to read social cues, awareness of their bodies and body energy, improved self-regulation, awareness of other – recognizing how others respond, learning boundaries, empowerment in relationships, improved self-esteem, trusting, developing a sense of safety to practice new skills.
- These skills come about with the horse first and then begin to transfer to people.
- Clients experience a sense of unconditional acceptance with the horse that peers do not provide due to fear of rejection. According to one practitioner, horses give “chance after chance after chance” to make repairs in relationships, where people do not.
- Children begin to take more responsibility for their relationships and start wanting to have better relationships.
- Parents report that their kids are practicing self-regulation strategies, such as taking a horse breath, at home. EAP in contrast to office therapy, allowed this transfer of skills to happen more quickly and more readily.
- As self-regulation abilities increase, children with ADHD begin to develop an internal locus of control and stay present and engaged.
- Children seem motivated and excited to participate in EAP sessions, which increases their engagement and positive outcomes compared with what often occurs in office-based talk therapy.

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- All practitioners agreed that empathy increased as a result of participation in EAP. Children learned to pay attention and care about how their behaviors impacted another, particularly the horse. They were able to begin to differentiate their own emotions from the other's emotions, developing a sense of self.
 - Practitioners reported that parents observed their children demonstrating empathy and concern for others, beginning with the horse and then translating to siblings and peers.
 - There was a general consensus, as well, that clients wanted to continue in therapy – to stay with the process – and this willingness also contributed to their success. One practitioner observed that children were initially more willing to receive feedback from the horse than from their family and friends, thus allowing them to develop and practice skills where they typically might avoid or resist learning from their interactions with others.
 - Parents are often surprised to see a side of their child they've never witnessed – a child who is calm and connected and kind and happy.
 - According to practitioners, outcomes were influenced by parental involvement and engagement in the process, and also the child's cognitive ability, which they say facilitates the transfer of skills learned during EAP to other situations in daily life.
 - Finally, many of the practitioners provided therapy in other settings as well (e.g., office therapy) and all reported that social skills and engagement in the process were improved in EAP in unique ways compared to other means of therapy.
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Author (year)	Focus of Research	Method
Beck (2014)	The beliefs of mental health therapists practicing TF-EAP about the components of effective treatment for children who have experienced abuse and neglect	<i>Action research study using phenomenological inquiry</i> – semi-structured interviews were conducted with six therapists who were trained in and practice Natural Lifemanship TF-EAP and who provided TF-EAP to children and adolescents who had experienced trauma. Interview transcripts, a field journal and case narratives of the therapists served as data sources. Data were reviewed and re-reviewed until themes emerged. Themes were coded, categorized and compared across data sources. Member checking was conducted to ensure that research findings rang true with participants. The outcomes of research were shared with a larger sample of therapists trained in TF-EAP to assist in identifying effective components and the development of goals for standardizing treatment.

Findings summarized by research question:

Why do therapists choose to use TF-EAP for children and adolescents?

- All therapists reported that TF-EAP significantly changed their practice. They believed it made them more effective and that it changed the way they work with their clients.
 - Some described this change as a transformative paradigm shift and that TF-EAP opened up a new way of doing therapy for them. They described the change as “huge” and all-encompassing saying they never want to go back to traditional office therapy.
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- One noted that TF-EAP has a theoretical base and practical interventions and that it has added structure to their practice.
 - They shared that parents brought children and adolescents to therapy to improve their child's behavior and emotion regulation and that TF-EAP afforded the child or adolescent the opportunity to learn the skill experientially while engaging in the relationship with a horse and the skill could then be transferred to other settings in their lives. Each therapist was committed to involving the parents and caretakers in the process, as well.

What components of TF-EAP do therapists believe are effective for children and adolescents who have experienced abuse and neglect?

- The horse was identified as a major component, offering children and adolescents the opportunity to practice controlling their own emotional state to accomplish their goal of effectively building a relationship with the horse.
 - The horse's natural concern for its own safety makes it adept at recognizing incongruence between the outer behavior and internal state of the youth, and noticing the horse's reaction to them helps clients begin to address their internal state instead of ignore it. They see results in terms of how the horse responds to them immediately, which reinforces the skill they are practicing and motivates them to practice even more.
 - Children learn to build a relationship in real time, which is seen as another effective component.
 - Others believed that the most important components of TF-EAP were Relationship Logic™ (practicing connection on the ground) and Rhythmic Riding™ (practicing connection while mounted), and the brain-based science that the model is based on.
 - Some shared that what makes TF-EAP effective is that it offers an experience that engages the brain in ways that it is usually engaged in stressful situations, allowing the client to work from their brainstem while engaging the neocortex and facilitating cross-brain connections.
 - Others observed that part of what makes this type of therapy effective is being outdoors in nature and not in an office. This helps the client relax and focus on the horse and “not feel trapped by another person wanting to explore their feelings.”
 - Engagement and sustained effort in the therapy process increase as a result of the motivation youth experience while building a relationship with a horse. One participant shared that “kids are magnetically drawn to the sensory experience of being with the horse.” Another shared that “some clients who have been hurt in human relationships find building a relationship with a horse easier.” Yet another shared that children want to return and see the process of building the relationship through, and that “when they are coming just to see me [without the horse] they are coming to talk about their maladaptive coping skills; when they are coming to see the horse they are coming to experience new coping skills.”
 - Trust development is another important component and participants described the process of trust development between the client and the horse and therapist and the client. Trust develops over time, and children have to earn the trust of the horse. Likewise, the therapist earns the client's and family's trust by maintaining the space required for the work that is needed and that comes to light during sessions with the horse. One noted that “trust for me develops quickly as I work with the family and am able to shine the light on the dynamics that may have been hidden in an office setting.”
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They also share that “trust for the horse develops as the client develops the skill to self-regulate and feel safe with the horse.” Clients also learn to trust themselves by practicing those skills with a horse and helping the horse stay regulated. Trust in themselves leads to empowerment.

Therapists also reported that learning Natural Lifemanship and practicing TF-EAP has changed their lives for the better, as well – that it’s applicable everywhere in their lives and that their lives and their family’s lives are better – that it’s helped them be happier and have better relationships in addition to being a better therapist.

In addition to interviews, case narratives were analyzed, elucidating many of the common themes evident in the interviews, including the importance of family involvement, the perception that therapeutic process is made through the developing relationship with the horse, and the observation of sustained engagement and effort in therapy on the part of the client and caretakers. Finally, researcher field notes also corroborated findings and highlighted the unanticipated finding regarding practitioners crediting the treatment model with changing not only their professional but also their personal lives.

Author (year)	Focus of Research	Method
Kruger (2018)	Understanding how a therapist and client of TF-EAP incorporate the horse into their discourse and how the language they use shapes the direction of a TF-EAP session in various therapeutic ways	<i>Recursive Frame Analysis</i> (RFA) is a kind of discourse analysis that was used to explore interaction and communication occurring in TF-EAP sessions. Data from 3 sessions were analyzed. RFA can be used to map change-oriented conversations indicating movement toward growth and healing. It is both a therapeutic tool and an advanced qualitative research method.

Findings:

The themes, or “galleries” as they are called, include:

- *Real Relationships* (focusing on the dynamic relationship between client and horse)
 - *Practicing Skills in the Moment* (“how interactions with the horse help the client refine skills of distress tolerance and fostering connected and trusting relationships”)
 - *Parallel Interactions* (interactions with horses that translate to the client’s relationships outside the therapy environment)
 - The conversations in the Real Relationships gallery revealed a common direction and a range of emotions elicited when the humans in the session talk about the horse. The feelings evoked within the client demonstrate the strong attachment clients exhibit toward their horse, and also the visceral emotions, such as frustration or even fear, that they experience in the context of this relational process. The horse is regarded as a “dynamic, integral and valued partner in the evolving rapport between therapist, client
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and horse.” These findings underscore the significance of the horse-human relationship in TF-EAP and its therapeutic outcomes.

- The second gallery, Practicing Skills in the Moment, illustrates the ways clients’ interactions with the horse and discussions around the horse “create opportunities for the client to articulate and rehearse self-regulation and coping skills.” Because the horse is a “dynamic and moving part of the session”, interactions between the client and horse can be unpredictable. Discussions around this aspect of sessions seem to “provide focal moments for the client to practice different skills during therapy.” This then allows the client to receive instant feedback about the effectiveness of their coping skills. Opportunities for practice in TF-EAP sessions are abundant and reinforcement is both natural and immediate. This opportunity to practice skills in the moment applies to both clients and therapists.
- The third gallery, Parallel Interactions, includes discourse in which clients make connections between what is occurring in therapy to their real-world interactions. In this way, the client transfers new knowledge and skills into other domains and relationships. This also increases “the client’s ability to understand interactions from multiple points of view and expand their overall awareness in their exchanges with others.”
- From her fieldnotes, the researcher additionally noted that the *physicality* of the relationship (e.g., synchronized breathing between client and horse, and actual prolonged physical contact) also affects physiological arousal of humans in ways including blood pressure and heart rate and stress-modulating hormones such as oxytocin.
- In conclusion, the therapist-client dialogue surrounding the horse is thus “seen to guide the conversation into productive therapeutic areas such as learning coping skills, practicing self-regulation, and highlighting relational aspects of interactions.”

Author (year)	Focus of Research	Method
Flora (2018)	To identify the psychodynamic experiences present in the feminine-equine relationship dyad, and how those experiences influence the process of individuation	A <i>hermeneutic phenomenological</i> research method and narrative research techniques were used. Data were generated from interviews in which four research participants shared their stories and these were combined with the researcher’s own story. An experiential activity was conducted with each research participant interacting with her horse, and live interviews were audio-recorded and transcribed to explore participants’ narratives surrounding their experiences and companionships with horses.

Findings:

- The narratives confirmed that “companionship with horses influences personal growth, strengthens emotional resilience, influences professional and social development, and provides a sense of community” suggesting “a woman’s relationship with a horse encourages individuation.”
- Six themes were identified: Caregiving, relationship, purpose and accomplishments, emotional and sensory awareness, life lessons and learning, and vocation. These themes were organized into the broad domains of Mastery, Grounding, and Agency.

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- Mastery, which is achieved through action and effort, indicates a level of capability and confidence accrued over time and that is evidenced in one's personal and professional accomplishments.
 - Grounding refers to "giving, receiving, or a mutual sharing of experience through a nurturing relationship" and approximates the security and safety found in relationship that grounds one to a core sense of self (in relationship to another and in relationship to oneself).
 - Agency encompasses purpose, direction, achievements, interests, pursuits and experience, and also a desire to learn and an appreciation of lessons learned that invite one to build character. Agency also includes a sense of responsibility to self and others, the ability to adapt to life circumstances, and the confidence to make decisions even in times of adversity.
 - The author describes the relationship between the three domains: "A sense of agency is a process that directs one toward mastery. Grounding is needed to make the journey sustainable. These qualities increase the ability to discern an appropriate direction in the context of complex life circumstances."
 - Discernment develops from accumulated experiences through which one's wisdom and confidence grow as one manages choices that serve one's innate and unique potential.
 - Mastery, the researcher shares, "is a form of differentiation that encourages the principle of discernment."
 - Differentiation through individuation is required to promote mastery. Individuation involves "holding the tension between incompatible and opposing positions" which "requires grace, determination, and the belief in and possession of one's faculties to persevere."
 - The research suggests that the feminine-horse relationship dyad promotes individuation through these mechanisms of mastery, grounding, and agency.
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Summary

The available research suggests that Natural Lifemanship TF-EAP contributes to improvements in psychosocial functioning, behavior, relationships, moods and emotions in children and adolescents who have experienced trauma or who have other risk factors. In pre-post studies using reliable and valid measures, reductions in anxiety, depression, somatization, and emotional and behavioral difficulties were noted. Although sample sizes were generally small, the results reported were statistically significant and clinically meaningful.

The six qualitative studies summarized in this literature review suggest remarkably similar mechanisms of change. In these studies, insights about the experience of TF-EAP/TT-EAL and what makes it effective were collected from participants and practitioners, alike. The most commonly cited mechanisms of change according to these studies can be summarized as follows:

- *The horse as a relationship partner.* Each study identifies the human-horse relationship itself as a mechanism of change. Horses respond to human interaction in the moment. Humans experience the horse as non-judgmental and affirming, offering acceptance and safety. This relational dynamic in which humans feel seen and accepted by their horse offers a sense of safety in the relationship, allowing humans to explore emotions that arise as they practice new ways of being in the relationship (Sheena, 2020; Mygatt, 2023; Young, 2020; Beck, 2014; Kruger, 2018; and Flora, 2018).
- *The environment.* The natural environment in which equine-assisted services take place is attributed to a sense of calm, safety, and willingness to engage that facilitates the therapeutic process and that contributes to client motivation to participate and to trust and persist in the process. This is contrasted with an office therapy setting in which clients may feel inhibited and disengaged, sometimes reporting that all of the attention on them or the pressure to engage verbally feels unsafe or overwhelming (Mygatt, 2023 and Beck, 2014).
- *Engagement and trust in the therapeutic process.* Trust between client, horse, and therapy team develop over time. As clients are motivated to engage and sustain effort in the process, trust begins to flourish, which contributes greatly to therapeutic outcomes (Sheena, 2020; Mygatt, 2023; Young, 2020; and Beck, 2014).

- *The experience of connection.* Connection, when experienced, promotes empathy, compassion, acceptance, attunement, and caring, which extend outward to the relationship partner and inward to the self, simultaneously. As connection is experienced and reinforced in the relationship with the horse, these qualities of connection translate to other relationships, as well (Mygatt, 2023; Young, 2020; and Kruger, 2018).
- *The cultivation of embodied awareness and attunement with oneself and the horse.* The relationship with the horse encourages embodied awareness. Clients learn to attune their awareness to what is happening in their own bodies, and thus what they are communicating non-verbally to the horse. They learn to attend to nuances in the horse's body language simultaneously. This quality of embodied awareness contributes to their ability to co-regulate and improve their relationships with others, and it contributes to a sense of self-mastery and agency (Sheena, 2020; Mygatt, 2023; Young, 2020; and Flora, 2018).
- *The practice and reinforcement of self-regulation and relational skills in real time.* TF-EAP and TI-EAL sessions afford abundant opportunities for practicing new self-regulation and relationship skills with the benefit of instant feedback from the horse and natural reinforcement as clients practice and discover what works and what doesn't. This facilitates learning and meaningful behavioral change, which then promotes neurodevelopment and integration, success, and an empowered sense of self (Young, 2020; Beck, 2014; and Kruger, 2018).
- *Neurodevelopment and integration.* Whole brain integration is promoted as a function of practice and as new patterns of relating with self and other replace old patterns. The eustress experienced in session facilitates real bottom-up integration (Sheena, 2020 & Beck, 2014).

- *Success begets success.* The rewarding experience of struggle, positive change and success are experienced as a virtuous cycle during individual sessions and across subsequent sessions. TF-EAP/TI-EAL sessions promote eustress as clients struggle and practice to communicate and build trust and connection with their equine partner. As they experience the reinforcing qualities of success, this leads to new patterns of being and relating with the horse and in the world in general, and leads to well-being/well-becoming (Sheena, 2020; and Mygatt, 2023).
- *The interaction of horse and human physiology.* Kruger (2018) noted that the interaction of horse and human physiology through prolonged physical contact impacts physiological arousal and stress modulation.
- *Differentiation and individuation.* Self-confidence and a new sense of self evolves. New meaning is given to one's past and new hope and expectations develop for one's future. A sense of agency is cultivated and individuals take more responsibility for their actions and their relationships (Mygatt, 2023; Young, 2020; and Flora, 2018).
- *The theoretical foundations of Natural Lifemanship.* Natural Lifemanship's emphasis on the neurobiology of trauma, attachment, and somatic work are credited with eliciting a paradigm shift for both practitioners and clients. For clients, the psychoeducation they receive helps to destigmatize their presenting challenges, encouraging self-acceptance and allowing for healing of internalized shame (Sheena, 2020). For practitioners, learning and practicing NL is often viewed as a paradigm shift, changing everything about the way they practice and making them better therapists (Beck, 2014).

- *Parental engagement.* Young (2020) and Beck (2014) both report that parental engagement in the process contributes to the impact of TF-EAP with youth clients and the transfer of skills to the youth's home and school settings.

Suggestions for future research

Future research studies should consider using quasi-experimental between- and within-subject designs using mixed methods with as large of samples as are feasible. Study samples should represent the population of individuals who receive treatment by Natural Lifemanship practitioners and include different ages, genders, race and ethnicity, and presenting conditions. There are natural limitations to obtaining large and diverse samples so it is therefore recommended that the focus be on conducting quality mixed method research and program evaluation in such a way that both outcomes and mechanisms of change may be explored. There is currently no research taking into consideration program quality or fidelity of treatment, and it is highly recommended that future studies observe and document not only the client's outcomes and experiences, but also the program components and practitioner characteristics and behaviors. Natural Lifemanship teaches that good therapy is good therapy, and good therapists will facilitate better outcomes for their clients regardless of the treatment approach they use. We place a high value on training and mentorship because we've witnessed the personal and professional transformations that occur and the competency that develops as a result of our rigorous certification process. For this reason, future research examining Natural Lifemanship should describe practitioner qualifications in terms of the trainings and certifications they've completed and the number of hours, months, or years of experience they have doing the work. Studies should also clearly articulate whether and under what circumstances other approaches are used. Case study research can illuminate a complex process and including case studies in

mixed method designs would add value to the findings. Finally, the mechanisms of change identified in the qualitative research to date warrant further investigation. Future studies should aim to understand these mechanisms, observe them, and measure them so that the contribution of each mechanism or cluster of mechanisms to the impact of TF-EAP and TI-EAL can be better understood and quantified.

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